# User Manual IR IP CAMERA

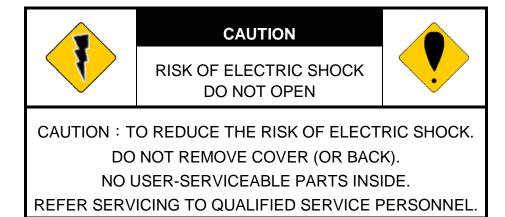


#### **WARINGS**

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.

DO NOT INSERT ANY METALLIC & ELETRIC CONDUCTIVE OBJECT THROUGH VENTILATION GRILLS.

#### **CAUTION**



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## I. Preface

This is a professional CMOS 2 Mega Pixel IP Camera. It has built-in web server which enables user to view real-time video via IE browser. It also supports simultaneously H.264/JPEG/ MPEG4 (3GPP Only) video compression with CMOS 2 M-Pixel Sensor which provides smooth and high video quality. The video can be stored in the SD card, and can be playback remotely.

IP Vandal Dome is an easy-to-use IP Camera which is designed for security application.

## **II. Product Specifications**

- IP 66
- External Varifocal Lens adjustment
- True Day/Night Function
- Mechanism IR Cut Filter available
- IR Distance 20M/30M/40M/50M/80M
- H.264/MPEG-4/ MJPEG Compression Format
- Support Cell Phone/ PDA/ 3GPP
- SD card backup
- 2-way audio
- 3 streaming
- SDK for software Integration
- Free Bundle 36 Channel Recording Software

#### **Specifications**

Hardware				
CPU	ARM 9 ,32 bit RISC			
RAM	256MB			
ROM	16MB			
Image sensor	1/3" CMOS			
Sensitivity	0 Lux (IR On)			
Lens Type	Vari-focal Auto IRIS 3.6~16mm			
ICR	Mechanism IR Cut Filter			
LED	IR Distance 20M			

Power over Ethernet	Yes			
Power Consumption	DC 12V, 470mA			
Operating Temperature	-10℃ ~ 40 ℃			
Dimensions	83mm (W) x 79.5mm (H) x 182.5mm (D)			
Weight	700g			
Network				
Ethernet	10/ 100 Base-T			
Network Protocol	HTTP, TCP/ IP, SMTP, FTP, PPPoE, DHCP,			
	DDNS, NTP, UPnP, 3GPP			
System				
Video Resolution	1600x1200, 1280x1024, 1280x960, 1280x720,			
	800x592, 640x480, 350x240, 160x120			
Video adjust	Brightness, Contrast, Exposure, Sharpness			
Dual Streaming	Yes			
Image snapshot	Yes			
Full screen monitoring	Yes			
Compression format	H.264/ MPEG-4/ MJPEG			
Video bitrate adjust	CBR, VBR			
Motion Detection	Yes, 3 different areas			
Triggered action	Mail, FTP			
Pre/ Post alarm	Yes, configurable			
Security	Password protection			
Firmware upgrade	HTTP mode, can be upgraded remotely			
Simultaneous	Up to 10			
connection				
Web browsing requirement				
OS	Windows 7, Vista, XP Microsoft IE 6.0 or above			
Hardware				
Suggested	Intel-C 2.0G, RAM : 512MB, Graphic card : 64MB			
Minimum	Intel-C 1.6G, RAM : 256MB, Graphic card : 32MB			

<sup>\*</sup> SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE

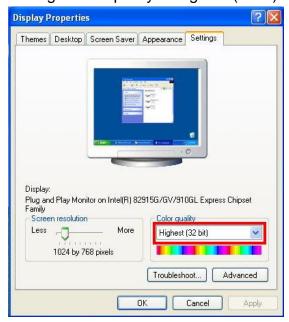
## **III. Product Installation**

## A. Monitor Setting

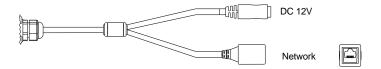
i. Right-Click on the desktop. Select "Properties".



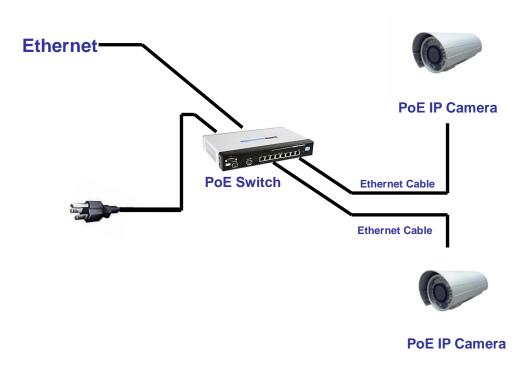
ii. Change color quality to highest (32bit).



## **B.** Hardware Installation



- i. Connect power adaptor
- ii. Connect Ethernet cable to IP Camera
- **iii.** Set up the network configurations according to the network environment. For further explanation, please refer to chapter VI, "Network Configuration for IP CAMERA".
- iv. PoE (Power Over Ethernet) 802.3af, 15.4W PoE Switch is recommended Power over Ethernet (PoE) is a technology that integrates power into a standard LAN infrastructure. It enables power to be provided to the network device, such as an IP phone or a network camera, using the same cable as that used for network connection. It eliminates the need for power outlets at the camera locations and enables easier application of uninterruptible power supplies (UPS) to ensure 24 hours a day, 7 days a week operation.



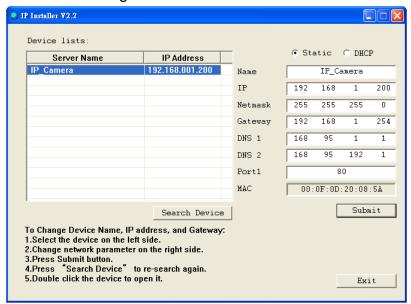
## C. IP Assignment

- i. Use the software, "IP Installer" to assign the IP address of IP Camera.

  The software is in the attached software CD.
- ii. There are two languages for the IP installer
  - a. IPInstallerCht.exe: Chinese version
  - b. IPInstallerEng.exe : English version
- iii. There are 3 kinds of IP configuration.
  - a. Fixed IP (Public IP or Virtual IP)
  - b. DHCP (Dynamic IP)
  - c. Dial-up (PPPoE)
- iv. Please execute IP Installer
- v. For Windows XP SP2 user, the following message box may appear. Please click "Unblock".



vi. IP Installer configuration:



vii. IP Installer will search all IP Cameras connected on Lan. The user can

click "Search Device" to search again.

viii. Click one of the IP Camera listed on the left side. The network configuration of this IP camera will show on the right side. You may change the "name" of the IP Camera to your preference (eg: Office, warehouse). Change the parameter and click "Submit". The following dialogue box will show. Just click "OK". It will apply the change and reboot the Device.



ix. Please make sure the subnet of PC IP address and IP CAM IP address are the same.

#### The same Subnet:

IP CAM IP address: <u>192.168.1</u>.200

PC IP address: <u>192.168.1</u>.100

**Different Subnets:** 

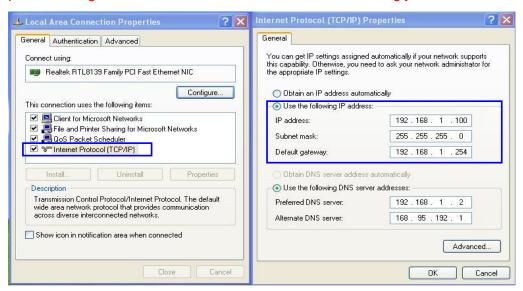
IP CAM IP address: 192.168.2.200

PC IP address: <u>192.168.1</u>.100

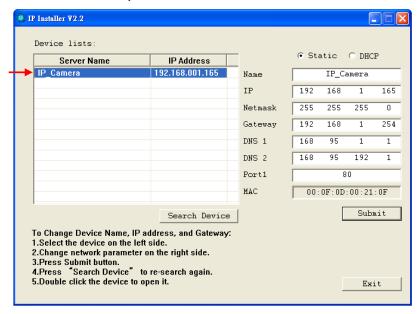
#### To Change PC IP address:

Control Panel→Network Connections→Local Area Connection Properties→Internet Protocol (TCP/IP) →Properties

Please make sure your IP Camera and PC have the same Subnet. If not, please change IP Camera subnet or PC IP subnet accordingly.



x. A quick way to access remote monitoring is to left-click the mouse twice on a selected IP Camera listed on "Device list" of IP Installer. An IE browser will be opened.



**xi.** Then, please key in the default "user name: admin" and "password: admin".



## D. Install ActiveX control:

For the first time to view the camera video via IE, it will ask you to install the ActiveX component.

This website wants to install the following add-on: 'WEBWATCH2.cab' from

If the installation failed, please check the security setting for the IE browser.

- i. IE → Tools → Internet Options... → Security Tab → Custom Level... →
   Security Settings → Download unsigned ActiveX controls → Select
   "Enable" or Prompt.
  - ii. IE → Tools → Internet Options... → Security Tab → Custom Level...
     →Initialize and script ActiveX controls not marked as safe → Select "Enable" or Prompt.

1 2





3 4





5

When popup the following dialogue box, click "Yes".

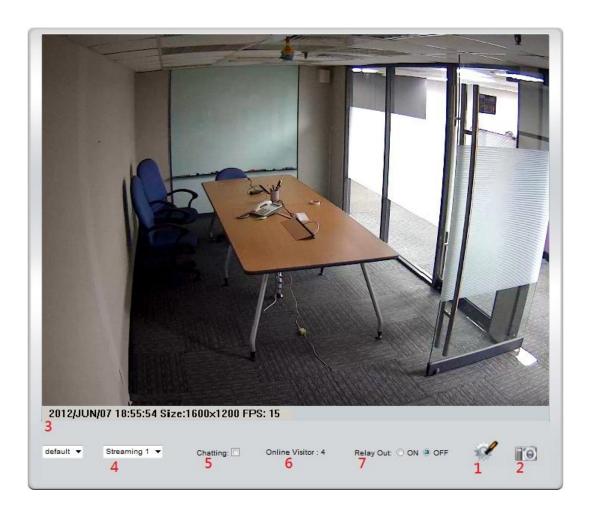


## IV. Live Video

Start an IE browser, type the IP address of the IP Camera in the address field. It will show the following dialogue box. Key-in the user name and password. The default user name and password are "admin" and "admin".



When connect to the IP Camera, The following program interface shows.





: Get into the administration page



2. : Video Snapshot

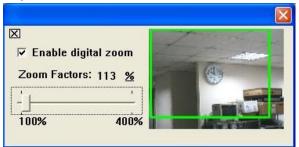
- 3. Show system time, video resolution, and video refreshing rate
- 4. Shows how many people connect to this IP camera

Double-click the video, it will change to full screen mode. Press "Esc" or double-click the video again, it will change back to normal mode.

Right-Click the mouse on the video, it will show a pop-up menu.

S<u>n</u>apshot <u>R</u>ecord Start <u>F</u>ull Screen <u>Z</u>oom

- 1. Snapshot: Save a jpg picture
- Record Start: Record video in the local PC. It will ask you where to save the video.
   To stop recording, right-click the mouse again. Select "Record Stop". The video format is AVI. Use Microsoft Media Player to play the recorded file.
- 3. Full Screen: Full-screen mode.
- 4. Zoom: Enable zoom-in and zoom-out functions. Select "Enable digital zoom" option first within the pop-up dialogue box and then drag and drop the bar to adjust the zoom factors.



## V. IR IP CAMERA Configuration

Click

video page.

to get into the administration page. Click

2010/10/21

2010/10/21

Time: 17:4:27

The date and time remain the same

17:4:31

Date:

Time :

Manual

Date:



to back to the live

Apply

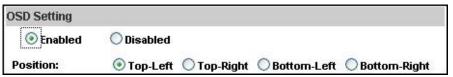
System Network A/V Setting **Event System Information** Server Information MAC Address: 00:0F:0D:21:52:C6 IP\_Camera Server Name: Status Bar ◎ 繁體中文 ◎ 简体中文 Language: English French Russian Spanish German Polish OSD Setting Time Stamp: Enabled Disabled Text: Enabled Oisabled OSD\_Display Text Edit Time Setting Server Time: 2010/10/21 17:5:29 Time Zone: GMT+08:00 Date Format: yy/mm/dd mm/dd/yy dd/mm/yy GMT+08:00 Time Zone: NTP: 198.123.30.132 NTP Server: Update: → Hour Time Shift: Minutes [-1440..1440] Synchronize with PC's time

## A.System

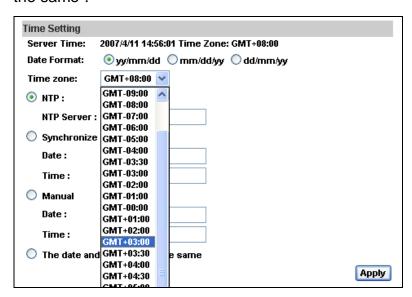
- i . System Information
  - **a.** Server Information: Set up the camera name, select language, and set up the camera time.
    - Server Name: This is the Camera name. This name will show on the IP Installer.
    - 2. Select language: There are English, Traditional Chinese, and Simple Chinese to select. When changed, it will show the following dialogue box for the confirmation of changing language.



**b.** OSD Setting: select a position where date & time display on screen.

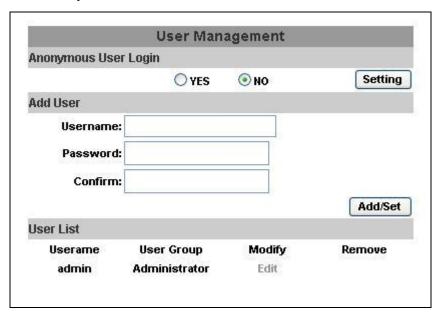


**c.** Server time setting: Select options to set up time - "NTP", "Synchronize with PC's time", "Manual", "The date and time remain the same".



#### ii · User Management

IP Camera supports three different users, administrator, general user, and anonymous user.



a. Anonymous User Login:

Yes: Allow anonymous login

No: Need user name & password to access this IP camera

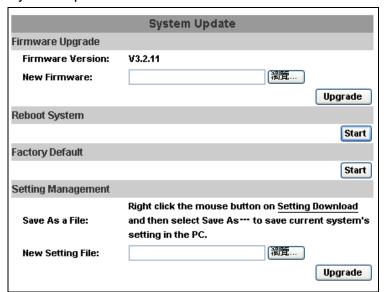
**b.** Add user:

Type the user name and password, then click "Add/Set".

c. Click "edit" or "delete" to modify the user.



#### iii · System update:

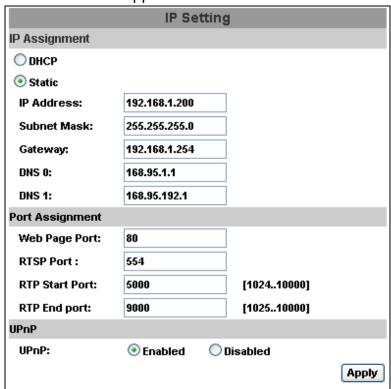


- **a.** To update the firmware online, click "Browse..." to select the firmware. Then click "Upgrade" to the proceed.
- **b.** Reboot system: re-start the IP camera
- **c.** Factory default: delete all the settings and restore defaults system.
- **d.** Setting Management: User may download the current setting to PC, or upgrade from previous saved setting.
  - Setting download:
     Right-click the mouse button on Setting Download → Select
     "Save AS..." to save current IP CAM setting in PC → Select
     saving directory → Save
  - 2. Upgrade from previous setting Browse → search previous setting → open → upgrade → Setting update confirm → click <u>index.html</u>. to return to main page

### **B.Network**

i . IP Setting

IR IP CAMERA supports DHCP and static IP.



- **a.** DHCP: Using DHCP, IR IP CAMERA will get all the network parameters automatically.
- **b.** Static IP: Please type in IP address, subnet mask, gateway, and DNS manually.
- **c.** Port Assignment: user may need to assign different port to avoid conflict when setting up IP assignment.
  - **1.** Web Page Port: setup web page connecting port and video transmitting port (Default: 80)
  - 2. RTSP Port: setup port for RTSP transmitting (Default: 554)
  - RTP Start and End Port: in RTSP mode, you may use TCP and UDP for connecting. TCP connection uses RTSP Port (554).
     UDP connection uses RTP Start and End Port.
- d. UPnP

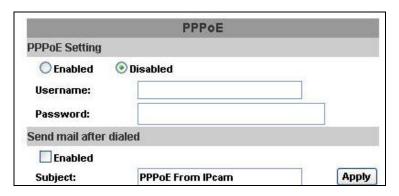
This IP camera supports UPnP, If this service is enabled on your computer, the camera will automatically be detected and a new icon will be added to "My Network Places."

**Note:** UPnP must be enabled on your computer.

Please follow the procedure to activate UPnP

- 1. open the Control Panel from the Start Menu
- 2. select Add/Remove Programs
- Select Add/Remove Windows Components and open Networking Services section
- 4. Click Details and select UPnP to setup the service
- 5. The IP device icon will be added to "MY Network Places"
- 6. User may double click the IP device icon to access IE browser

#### ii · PPPoE:



Select "Enabled" to use PPPoE.

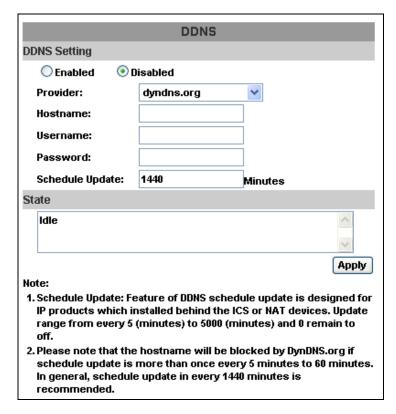
Key-in Username and password for the ADSL connection.

Send mail after dialed: When connect to the internet, it will send a mail to a specific mail account. For the mail setting, please refer to "Mail and FTP" settings.

#### iii · DDNS:

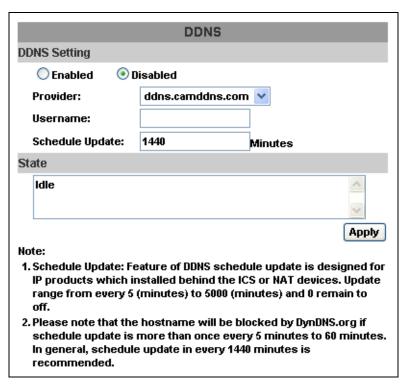
IR IP camera supports DDNS (Dynamic DNS) and Manual Built-in DDNS services.

#### a. DynDNS:



- 1. Please enable this service
- 2. Key-in the DynDNS server name, user name, and password.
- 3. Set up the IP Schedule update refreshing rate.
- 4. Click "Apply"
- If setting up IP schedule update too frequently, the IP may be blocked. In general, schedule update every day (1440 minutes) is recommended.

#### **b.** Camddns service:



- 1. Please enable this service
- 2. Key-in user name.
- 3. IP Schedule update is default at 5 minutes
- **4.** Click "Apply".

#### c. DDNS Status

- 1. Updating: Information update
- 2. Idle: Stop service
- **3.** DDNS registration successful, can now log by http://<username>.ddns.camddns.com: Register successfully.
- **4.** Update Failed, the name is already registered: The user name has already been used. Please change it.
- **5.** Update Failed, please check your internet connection: Network connection failed.
- **6.** Update Failed, please check the account information you provide: The server, user name, and password may be wrong.

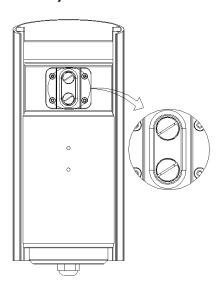
## **C.A/V Setting**

i . Image Setting



Adjust "Brightness", "Contrast", "Hue", "Saturation" to get clear video. If needed, please select "Back Light Compensation" ON to compensate back light situation

ii This IP camera belongs to external varifocal lens adjustment camera. Please adjust "ZOOM" first and "FOCUS" in the following to complete the adjustment.



#### iii · Video Setting

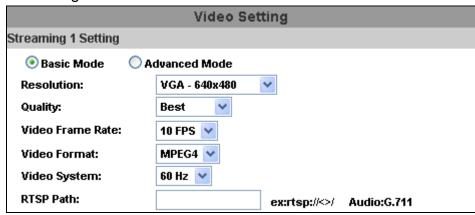
User may select 2 streaming output simultaneously:

Streaming 1 Setting: Basic mode and Advanced mode

Streaming 2 Setting: Basic mode, Advanced mode, and 3GPP mode

(Max Video Frame Rate for both streaming combined is 30 FPS)

#### a. Streaming 1 Basic Mode:



#### 1. Resolution:

There are 8 resolutions can be chosen.

1600x 1200, 1280x1024, 1280x960, 1280x720, 800x600,

640x480, 320x240, 176x144There are 4 resolutions to choose.

#### 2. Quality:

There are 5 levels to adjust:

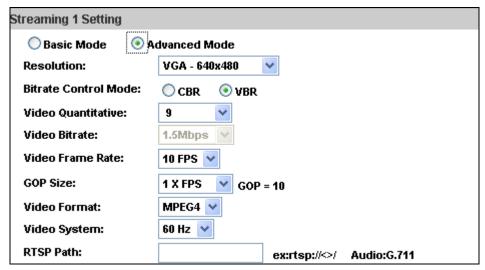
Best/ High/ Standard/ Medium/ Low

The higher the quality is, the bigger the file size is.

Also not good for internet transmitting

- **3.** Video Frame Rate: The video refreshing rate per second.
- **4.** Video Format: H.264/MPEG-4/JPEG.
- 5. RTSP Path: RTSP output name

#### **b.** Streaming 1 Advanced Mode:



- **1.** Resolution: 1600x 1200, 1280x1024, 1280x960, 1280x720, 800x600, 640x480, 320x240, 176x144
- 2. Bitrate Control Mode

There are CBR (Constant Bit Rate) and VBR (Variable Bit Rate) to use.

CBR: 32Kbps~4Mbps – Increase CBR to increase the picture quality; vise versa

VBR: 1(Low) ~10(High) – Compression rate, the higher the compression rate, the lower the picture quality is; vise versa. The balance between VBR and network bandwidth will affect picture quality. Please carefully select the VBR rate to avoid picture breaking up or lagging.

3. Video Frame Rate

Picture display frame per second 1600 x 1200, Max. 15FPS

1280 x 720 or below this resolution, Max 30 frames/second

4. GOP Size

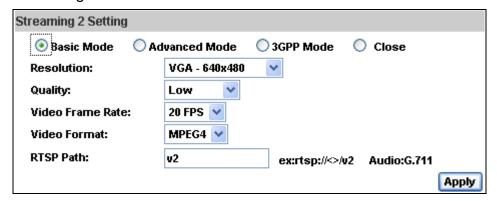
It means "Group of Pictures". The higher the GOP is, the better the quality is.

#### **5.** Video Format:

There are 2 Video Format to choose MPEG4 or JPEG.

**6.** RTSP Path: RTSP output connecting route

#### c. Streaming 2 Basic Mode:



#### 1. Resolution:

There are 3 resolutions to choose. 1600x 1200, 1280x1024, 1280x960, 1280x720, 800x600, 640x480, 320x240, 176x144

#### 2. Quality:

There are 5 levels to adjust:

Best/ High/ Standard/ Medium/ Low

The higher the quality is, the bigger the file size is. Also not good for internet transmitting

#### Video Frame Rate :

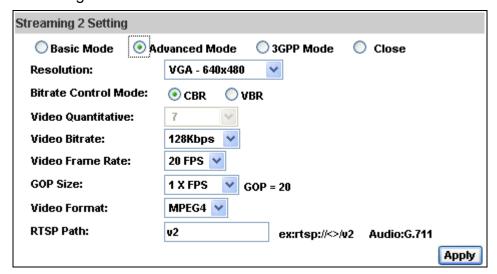
Picture display frame per second.

1600 x 1200, Max. 15FPS

1280 x 720 or below this resolution, Max 30 frames/second

- 4. Video Format: H.264/JPEG
- 5. RTSP Path: RTSP output connecting route

#### d. Streaming 2 Advanced Mode:



#### 1. Resolution:

There are 3 resolutions to choose. 1600x 1200, 1280x1024, 1280x960, 1280x720, 800x600, 640x480, 320x240, 176x144

#### 2. Quality:

There are 5 levels to adjust:

Best/ High/ Standard/ Medium/ Low

The higher the quality is, the bigger the file size is. Also not good for internet transmitting

#### 3. Video Frame Rate:

Picture display frame per second.

1600 x 1200, Max. 15FPS

1280 x 720 or below this resolution, Max 30 frames/second

- 4. Video Format: H.264/JPEG
- 5. RTSP Path: RTSP output connecting route
- 6. RTSP Path: RTSP output name

#### **e.** Streaming 2, 3GPP mode:

Streaming 2 Setting				
O Basic Mode O Ac	dvanced Mode 💿 3GPP Mode 🔘 Close			
Resolution:	QQVGA - 160x120 🔝			
Bitrate Control Mode:	⊙ CBR ○ VBR			
Video Quantitative:	7			
Video Bitrate:	128Kbps 💙			
Video Frame Rate:	5 FPS 💟			
GOP Size:	1 X FPS			
Video Format:	MPEG4 V			
3GPP Path:	3g ex:rtsp:///3g Audio:AMR			
	ex:rtsp://<>/3gx No Audio			
	Apply			

3GPP default value is QQVGA, 128Kbp, 5FPS, GOP=1XFPS

3GPP mode suggested setting: QQVGA, lower than 128kbps, 5FPS, GOP= 1x FPS or 2x FPS, MPEG4 format

3GPP can achieve up to 10FPS, In 3GPP mode, Stream 1 & Stream 2 combined frame rate is 20FPS

**1.** Fix Resolution:

QQVGA - 160×120

2. Bitrate Control Mode

There are CBR (Constant Bit Rate) and VBR (Variable Bit Rate) to use.

CBR: 32Kbps~320bps (the higher the CBR is, the better the video quality is)

VBR: 1~10 (Compression Rate)

3. Video Frame Rate (5 FPS is recommended)

The video refreshing rate per second.

4. GOP Size

It means "Group of Pictures". The higher the GOP is, the better the quality is.

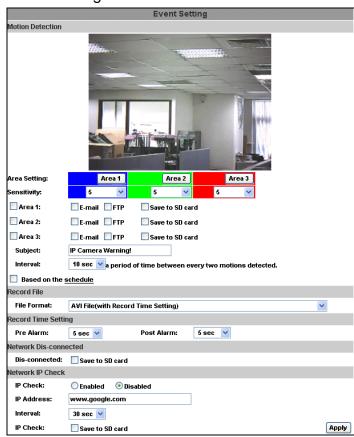
5. Video Format: MPEG4 or JPEG

**6.** 3GPP: 3GPP output name

## **D.Event List**

IR IP CAMERA provides multiple event settings.

i . Event Setting



a. Motion Detection

IP CAMERA allows 3 areas motion detection. When motion is triggered, it can send video to some specific mail addresses, transmit video to remote ftp server. To set up the motion area, click "Area Setting". Using mouse to drag and set the area. The same operation for area 2 and 3.

**b.** Record File Setting: IP CAMERA allows 3 different types of recording file to change its record size.

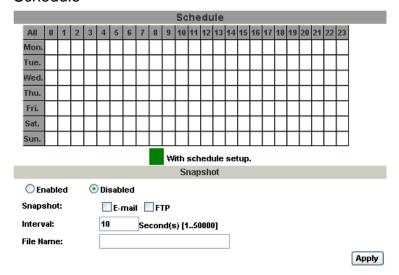
When motion/alarm is triggered, there are 3 different types of record mode.

- 1. AVI File (With Record File Setting)
- 2. Multi-JPEG (With Record File Setting), only with JPEG compression format.
- 3. Single JPEG (Single File with Interval Setting)
- c. Record Time Setting: Pre Alarm and Post Alarm setups for video start and end time when motion detected, I/O, or other devices got

#### triggered.

Note: Pre/Post Alarm record time is base on record time setting and IP Cam built-in Ram memory. Limited by IP Cam built-in Ram Memory, When information is too much or video quality set too high, it will cause recording frame drop or decrease on post alarm recording time.

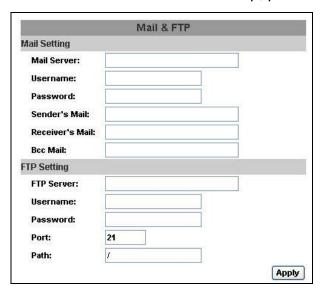
#### ii . Schedule



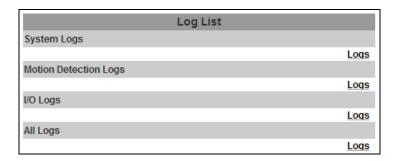
- **a.** Schedule: Use the mouse to perform the schedule setting. The set up date will be shown in green.
- Snapshot: the snapshot file can be send by E-mail and FTP.Moreover, the snapshot interval cab be set from 1 ~50000 sec.

#### iii · Mail & FTP

To send out the video via mail of ftp, please set up the configuration first.



iv . Log List



Sort by System Logs, Motion Detection Logs and I/O Logs. In addition, System Logs and I/O Logs won't lose data due to power failure.

#### v SD card

The SD card manual install is only provide for the indoor type camera, Please Insert Micro SD card before use it. Make sure pushing SD card into the slot completely.

If you are using the outdoor water proof type camera, The SD card is not support install from user.

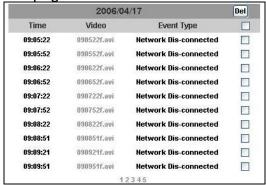
Note: The use of the SD card will affect the operation of the IP Camera slightly, such as affecting the frame rate of the video.



a. Playback:



 It will show the capacity of the SD card. Click the date listed on this page. It will show the list of the video.

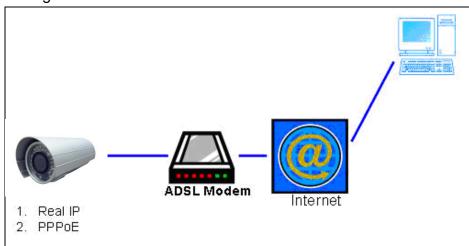


2. The video format is AVI. Click the video to start Microsoft Media Player to play it.

To delete the video, check it, then click Del. When the SD card is full, it will remove the oldest video automatically.

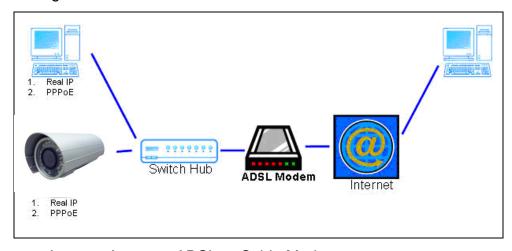
## VI. Network Configuration

#### i Configuration 1:



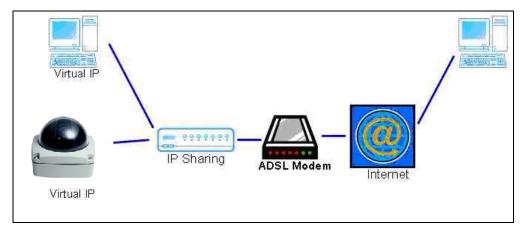
- a. Internet Access: ADSL or Cable Modem
- b. IP address: One real IP or one dynamic IP
- **c.** Only IR IP CAMERA connects to the internet
- **d.** For fixed real IP, set up the IP into IR IP CAMERA. For dynamic IP, start PPPoE.

#### ii Configuration 2:



- a. Internet Access: ADSL or Cable Modem
- **b.** IP address: More than one real IP or one dynamic IP
- c. IR IP CAMERA and PC connect to the internet
- d. Device needed: Switch Hub
- **e.** For fixed real IP, set up the IP into IR IP CAMERA and PC. For dynamic IP, start PPPoE.

#### iii . Configuration 3:



- a. Internet Access: ADSL or Cable Modem
- **b.** IP address: one real IP or one dynamic IP
- c. IR IP CAMERA and PC connect to the internet
- d. Device needed: IP sharing
- e. Use virtual IP, set up port forwarding in IP sharing.

## VII. Package contents

- i . IR IP CAMERA Network Camera
- ii · Adaptor
- iii . Ethernet Cable
- iv · CD title (User manual, IP installation Utility)